



Chemistry

Time Remaining: 45/45 (Minutes)

Q.1

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The geometry of the molecule and the geometry of the molecule is always same, if :

- a. Two lone pairs are present
- b. No lone Pairs are present
- c. One lone pair is present
- d. Bond pair is repelled by lone pair

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Correct Answer:

☐ A ☐ B ☐ C ☐ D

Next



Time Remaining: 44/45 (Minutes)

Q.2

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The type of bonding which may be inter or intra-molecular is:

- a. ionic
c. dative
b. covalent
d. metallic

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 44/45 (Minutes)

Q.3

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which one of the following statement is true?

- a. Ionic radius of a cation is greater than the atomic radius of the element from which it is derived
- b. The atomic radius of the element is smaller than the ionic radius of the cation derived from the same element
- c. The atomic radius of an element and ionic radius of its cation both are same
- d. Ionic radius of a cation is smaller than the atomic radius of the element from which it is derived

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 44/45 (Minutes)

Q.4

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The extent of decrease in ionic radius of a cation depends on:

- a. Size of neutral atom from which cation produced
- b. Size of cation
- c. Number of positive charges on the cation
- d. All of given

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

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Chemistry

Time Remaining: 44/45 (Minutes)

Q.5

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The process in which electron is removed from gaseous atom is called:

- a. Catenation b. Sublimation
c. Ionization d. Dissociation

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Chemistry

Time Remaining: 44/45 (Minutes)

Q.6

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

If ΔEN of two bonded atom is equal to 1.7 then bond is 50% ionic and 50% covalent example of such bond is:

- a. HF
- b. KBr
- c. CsF
- d. NaCl

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

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Time Remaining: 43/45 (Minutes)

Q.7

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

If an element of II-A group react with an element of VII-A group then the bond between then will be:

- a. Coordinate covalent b. Ionic
c. Covalent d. Non-polar

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 43/45 (Minutes)

Q.8

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

A bond between two non-metal atoms:

- a. Is an ionic bond
- b. Is polar covalent bond
- c. Is non-polar covalent bond
- d. May be a polar or non-polar covalent bond

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

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Time Remaining: 43/45 (Minutes)

Q.9

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The percentage of ionic character in NaCl is:

- a. 60%
- b. 72%
- c. 85%
- d. 56%

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

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Time Remaining: 43/45 (Minutes)

Q.10

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which one of will not be able to form coordinate covalent bond?

- a. NH_3
- b. PH_3
- c. SnH_2
- d. CH_4

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining 43/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The charge of a cation M is +2 and on anion A is -3. The compound formed has the formula:

- a. M_2A
- b. MA_2
- c. M_3A_2
- d. M_2A_3

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Correct Answer:



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Time Remaining 43/45 (Minutes)

Q.111

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which of the following is an example of odd molecule as far as bonding is concerned:

a. NH_3

b. PH_3

c. CO_2

d. CO

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Correct Answer:



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Time Remaining 43/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

All of the following species have dative bond except :

a. OH^-

b. BF_4

c. NH_4^+

d. H_3O^+

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Correct Answer:



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Time Remaining 43/45 (Minutes)

Q.111

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Linear overlapping of two p-orbitals form:

- a. Pi bond
- b. Sigma bond
- c. Ionic bond
- d. Polar bond

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Correct Answer:



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Time Remaining 42/45 (Minutes)

Q.19

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

In hybridization the percentage of P character has _____ relationship with the bond length:

- a. direct b. inverse
c. no relationship d. may be a or b

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Correct Answer:



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Time Remaining 42/45 (Minutes)

Q.10

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

VSEPR fails to explain:

- a. Molecular geometry
- b. Bond angle
- c. Formation of covalent bonds
- d. Arrangement of electron pairs around central atom

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Correct Answer:



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Time Remaining 42/45 (Minutes)

Q.17

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which has linear structure?

- a. Alkyne b. Alkane
c. Alkene d. Both alkane and alkene

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Correct Answer:



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Time Remaining 42/45 (Minutes)

Q.118

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

If central atom is surrounded by two electron pairs then the shape of molecule will be:

- | | |
|--------------------|----------------|
| a. Trigonal planar | b. Linear |
| c. Bent | d. Tetrahedral |

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Correct Answer:



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Time Remaining 42/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The geometry of the molecule will be regular if central atom is surrounded by:

- a. Lone pairs only
- b. Bond pairs only
- c. Both lone and bond pairs
- d. All of given

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Correct Answer:



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Chemistry

Time Remaining 42/45 (Minutes)

Q.25

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

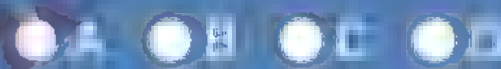
The bond angle in NF_3 is:

- a. 107.5° b. 120°
c. 102° d. 109.5°

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Correct Answer:



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Chemistry

Time Remaining 41/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

 H_3O^+ has similar geometry with:

- a. SnCl_2 b. NH_3
c. NH_4^+ d. BF_3

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Correct Answer:



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Time Remaining 41/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Many ionic compounds do not dissolve in water. Only those ionic compounds are soluble in water, for which:

- a. Hydration energy is less than lattice energy
- b. Hydration energy is greater than lattice energy
- c. Hydration energy is equal to lattice energy
- d. all of these

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Correct Answer:



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Time Remaining 41/45 (Minutes)

Q.219

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which one of the following is correct bond energy order of halogens.

- a. $F - F < Cl - Cl < Br - Br < I - I$
- b. $F - F > Cl - Cl > Br - Br > I - I$
- c. $F - F < Br - Br < I - I < Cl - Cl$
- d. $Cl - Cl > Br - Br > F - F > I - I$

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Correct Answer:



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Time Remaining 41/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

SnCl_4 is likely to be possessing _____ geometry and hybridization:

- a. linear and Sp^2
- b. trigonal planer and Sp^2
- c. Tetrahedral and Sp
- d. Tetrahedral and Sp^3

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Correct Answer:



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Time Remaining 41/45 (Minutes)

Q.10

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which are the properties of covalent compounds?

- a. React fast, Soluble in polar solvent, Non-directional
- b. Moderate Rate, low yield, show isomerism
- c. Volatile, usually low M.P, conductor
- d. none of the above

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Correct Answer:



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Time Remaining 41/45 (Minutes)

Q.10

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which type of bonding is present in BH_3^+ .

- a. Ionic
- b. Covalent
- c. Co-ordinate Covalent
- d. Both b & c

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Correct Answer:



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Time Remaining 40/45 (Minutes)

Q.11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

_____ has dipole moment.

- a. CO
- b. CO₂
- c. Benzene
- d. All of these

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Correct Answer:



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Time Remaining 40/45 (Minutes)

Q.18

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which of the following bonds have minimum bond energy?

a. C - F

b. C - Cl

c. C - I

d. C - Br

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Correct Answer:



A



B



C



D

Next

Back



Time Remaining 40/45 (Minutes)

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Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Boiling point of HF is _____ H_2O .

- a. Lower than
- b. Equal to
- c. Higher than
- d. Almost same

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Correct Answer:



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Time Remaining 40/45 (Minutes)

Q36

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

C-C bond length are 154, 133 and 120 Pm for ethane, ethene and ethyne respectively. This is due to:

- a. Increase in s orbital contribution from Sp^3 to Sp
- b. π - bonding reduces inter-nuclear bond distance
- c. Proton-proton repulsion decreases
- d. All of these

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Correct Answer:



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Time Remaining 40/45 (Minutes)

Q31

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The molecule of NH_2^- has geometrical shape similar to?

- a. SO_2
- b. H_2O
- c. CO_2
- d. All of these

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Correct Answer:



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Time Remaining 40/45 (Minutes)

Q317

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The strength of a bond depends upon:

- a. Bond length
- b. Atomic size
- c. Electro negativity difference of bonded atoms
- d. All of the above

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Correct Answer:



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Time Remaining 39/45 (Minutes)

03/11

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

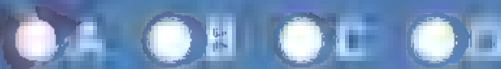
Following are the molecules with zero dipole moment except ?

- a. CO
- b. Fumaric acid
- c. Benzene
- d. All will have dipole moment values

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Correct Answer:



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Time Remaining 39/45 (Minutes)

Q.34

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which electronic configuration represents most reactive species:

- a. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$
- b. $1s^2 2s^2 2p^6 3s^1$
- c. $1s^2 2s^1$
- d. $1s^2 2s^2 2p^6 3s^2$

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Correct Answer:



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Time Remaining 39/45 (Minutes)

Q38

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

In which one of the following pairs do the molecules have similar shapes?

- a. AlCl_3 and BCl_3
- b. AlCl_3 and PCl_3
- c. BF_3 and NH_3
- d. BeCl_2 and H_2O

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Correct Answer:



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Time Remaining 39/45 (Minutes)

Q.30

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which of the following molecules will not form a hydrogen bond with another of its own molecules?

- a. CH_3CHO
- b. CH_3OH
- c. CH_3NH_2
- d. NH_3

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Correct Answer:



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Chemistry

Time Remaining 39/45 (Minutes)

Q33

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Which one of the following statements describes a phenomenon, which can be explained by intermolecular hydrogen-bonding?

- a. The melting points of the Group I hydroxides increase with increasing relative molecular mass (M_r)
- b. The boiling points of the alkanes increase with increasing relative molecular mass.
- c. CH_3OH ($M_r = 46$) has a higher boiling point than $\text{CH}_3\text{CH}_2\text{CH}_3$ ($M_r = 44$)
- d. Hydrogen chloride forms an acidic solution when dissolved in water.

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Correct Answer:



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Time Remaining 38/45 (Minutes)

Q38

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

The C_2H_2 molecule is linear. What can be deduced from this about the number of σ and π bonds present in the molecule?

- a. 2σ 2π
- b. 2σ 3π
- c. 3σ 1π
- d. 3σ 2π

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Correct Answer:



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Time Remaining 38/45 (Minutes)

Q.39

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Magnesium oxide is used to line industrial furnaces because it has a very high melting point. Which type of bond needs to be broken for magnesium oxide to melt?

- a. co-ordinate b. covalent
c. ionic d. metallic

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Correct Answer:



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Back

Chemistry

Time Remaining 38/45 (Minutes)

Q.45

Test 6 Chemical Bonding

CHEMISTRY NMDCAT

Axial overlapping is result in:

- a. σ -bond
- b. π - bond
- c. Ionic bond
- d. Metallic bond

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Correct Answer:



Submit Quiz

Back

NMDCAT UNITWISE TEST 6

Unit-10

CHEMICAL BONDING

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Q. 1

The geometry of the molecule and the geometry of the orbitals is always same, if :

- a. Two lone pairs are present
- b. No lone Pairs are present**
- c. One lone pair is present
- d. Bond pair is repelled by lone pair

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Q. 2

The type of bonding which may be inter or intra-molecular is:

- a. ionic
- b. covalent
- c. **dative**
- d. metallic

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Q. 3

Which one of the following statement is true?

- a. Ionic radius of a cation is greater than the atomic radius of the element from which it is derived
- b. The atomic radius of the element is smaller than the ionic radius of the cation derived from the same element
- c. The atomic radius of an element and ionic radius of its cation both are same
- d. Ionic radius of a cation is smaller than the atomic radius of the element from which it is derived**

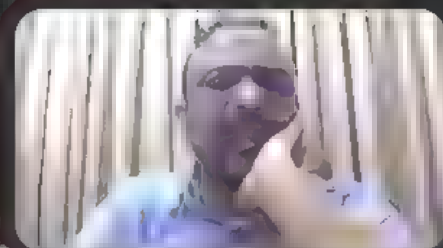
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Q. 4

The extent of decrease in ionic radius of a cation depends on:

- a. Size of neutral atom from which cation produced
- b. Size of cation
- c. Number of positive charges on the cation
- d. All of given

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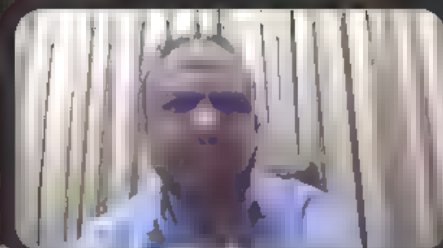


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Q. 5

The process in which electron is removed from gaseous atom is called:

- a. Catenation
- b. Sublimation
- c. **Ionization**
- d. Dissociation

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Q. 6

If ΔEN of two bonded atom is equal to 1.7 then bond is 50% ionic and 50% covalent example of such bond is:

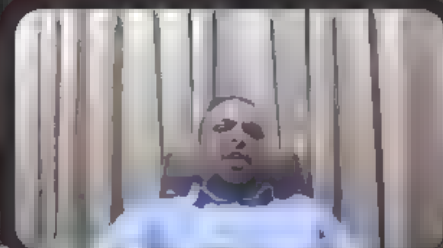
a. HF

b. KBr

c. CSF

d. NaCl

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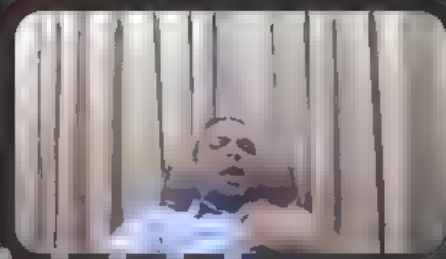


Q. 7

If an element of II-A group react with an element of VII-A group then the bond between then will be:

- a. Coordinate covalent
- b. Ionic
- c. Covalent
- d. Non-polar

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Q. 8

A bond between two non-metal atoms:

- a. Is an ionic bond
- b. Is polar covalent bond
- c. Is non-polar covalent bond
- d. May be a polar or non-polar covalent bond**

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Q. 9

The percentage of ionic character in NaCl is

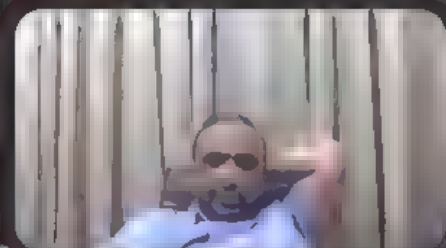
a. 60%

b. 72%

c. 85%

d. 56%

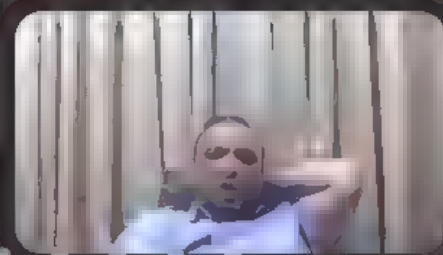
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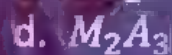
Q. 10

Which one of the following will not be able to form coordinate covalent bond?

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Q. 11

The charge of a cation M is +2 and on anion A is -3. The compound formed has the formula:

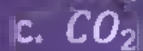


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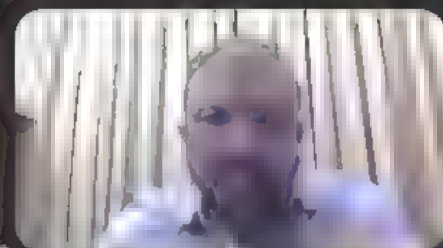


Q. 12

Which of the following is an example of odd molecule as far as bonding is concerned:



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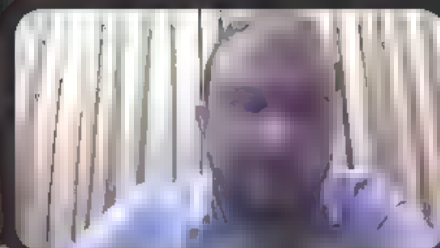


Q. 13

All of the following species have dative bond except :



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Q. 14

Linear overlapping of two p-orbitals form:

- a. Pi bond
- b. **Sigma bond**
- c. Ionic bond
- d. Polar bond

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Q. 15

In hybridization the percentage of P character has _____ relationship with the bond length.

- a. **direct** b. inverse
c. no relationship d. may be a or b

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Q. 16

VSEPR fails to explain:

- a. Molecular geometry
- b. Bond angle
- **Formation of covalent bonds**
- d. Arrangement of electron pairs around central atom

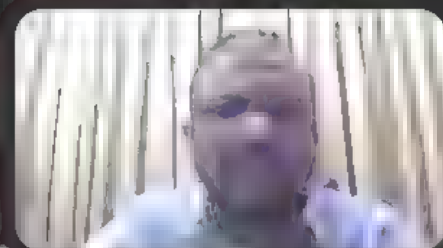
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Q. 17

Which has linear structure?

- a. Alkyne
- b. Alkane
- c. Alkene
- d. Both alkane and alkene

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Q. 18

If central atom is surrounded by two electron pairs then the shape of molecule will be:

- a. Trigonal planar
- b. Linear
- c. Bent
- d. Tetrahedral

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Q. 19

The geometry of the molecule will be regular if central atom is surrounded by:

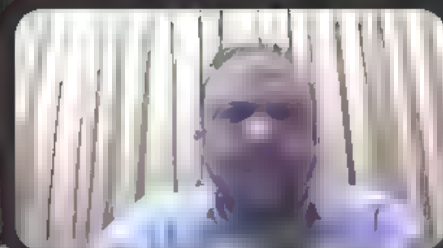
- a. Lone pairs only
- b. Bond pairs only**
- c. Both lone and bond pairs
- d. All of given

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Q. 20

The bond angle in NF_3 is :a. 107.5° b. 120° ☒ c. 102° d. 109.5°

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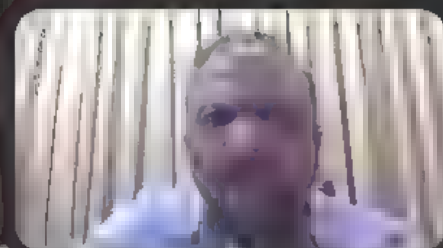
Q. 21

H_3O^+ has similar geometry with:

- a. SnCl_2
c. NH_4^+

- b. NH_3
d. BF_3

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Q. 22

Many ionic compounds do not dissolve in water. Only those ionic compounds are soluble in water for which:

- a. Hydration energy is less than lattice energy
- b. Hydration energy is greater than lattice energy**
- c. Hydration energy is equal to lattice energy
- d. all of these

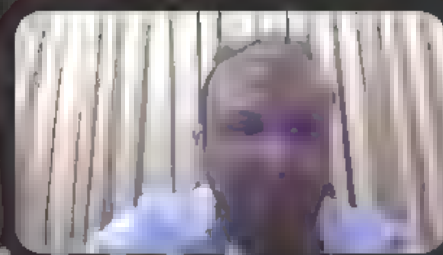
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Q. 23

Which one of the following is correct bond energy order of halogens.

- a. $F-F < Cl-Cl < Br-Br < I-I$
- b. $F-F > Cl-Cl > Br-Br > I-I$
- c. $F-F < Br-Br < I-I < Cl-Cl$
- d. $Cl-Cl > Br-Br > F-F > I-I$

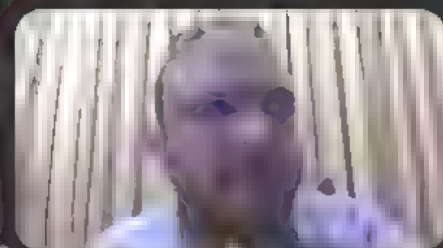
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Q. 24

SnCl_4 is likely to be possessing _____ geometry and hybridization:

- a. linear and Sp^2
- b. trigonal planer and Sp^2
- c. Tetrahedral and Sp
- d. Tetrahedral and Sp^3**

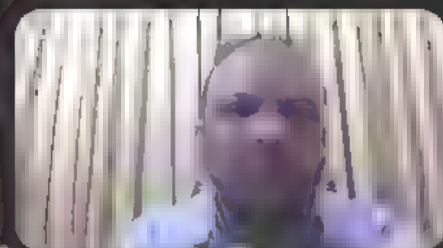
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Q. 25

Which are the properties of covalent compounds?

- a. React fast, Soluble in polar solvent, Non-directional
- b. **Moderate Rate, low yield, show isomerism**
- c. Volatile, usually low M.P, conductor
- d. none of the above

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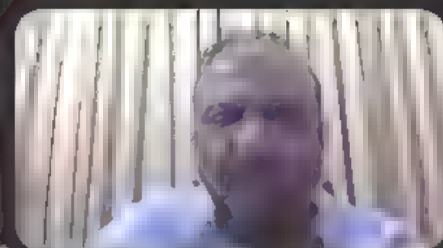
Q. 26

Which type of bonding is present in BH_4

- a. Ionic
- b. Covalent
- c. Co-ordinate Covalent

d. Both b & c

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Q. 27

_____ has dipole moment.

a. CO

b. CO_2

c. Benzene

d. All of these

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Q. 28

Which of the following bonds have minimum bond energy?

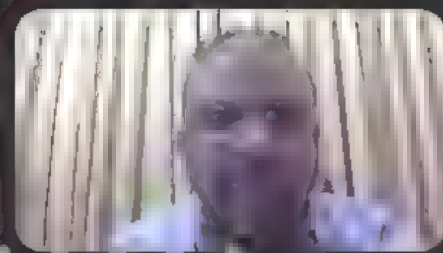
a. C - F

b. C - Cl

☒ c. C - H

d. C - Br

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Q. 29

Boiling point of HF is _____ H_2O .

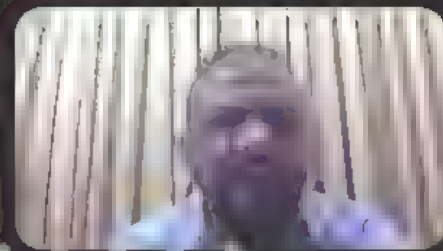
a. Lower than

c. Higher than

b. Equal to

d. Almost same

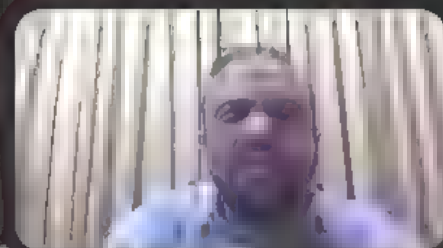
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Q. 30

C-C bond length are 154, 133 and 120 Pm for ethane, ethene and ethyne respectively. This is due to:

- a. increase in s orbital contribution from Sp^3 to Sp
- b. π - bonding reduces inter-nuclear bond distance
- c. Proton-proton repulsion decreases
- d. All of these

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Q. 31

The molecule of NH_2^- has geometrical shape similar to?

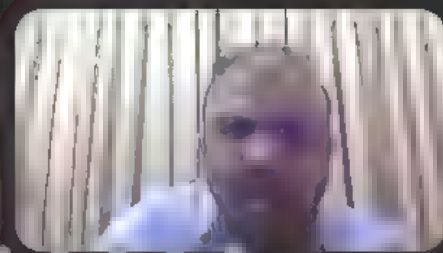
a. SO_2

b. H_2O

c. CO_2

d. All of these

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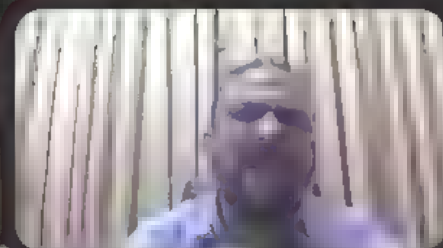


Q. 32

The strength of a bond depends upon:

- a. Bond length
- b. Atomic size
- c. Electro negativity difference of bonded atoms
- d. All of the above**

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Q. 33

Following are the molecules with zero dipole moment except ?

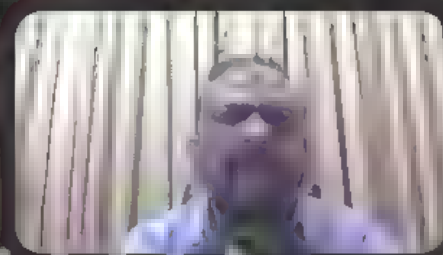
a. CO

b. Fumaric acid

c. Benzene

d. All will have dipole moment values

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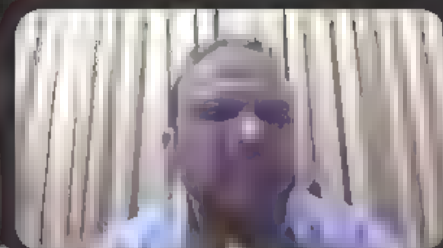


Q. 34

Which electronic configuration represents most reactive species:



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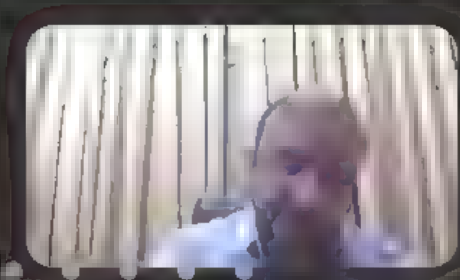


Q. 35

In which one of the following pairs do the molecules have similar shapes?

- a. AlCl_3 and BCl_3
- b. AlCl_3 and PCl_3
- c. BF_3 and NH_3
- d. BeCl_2 and H_2O

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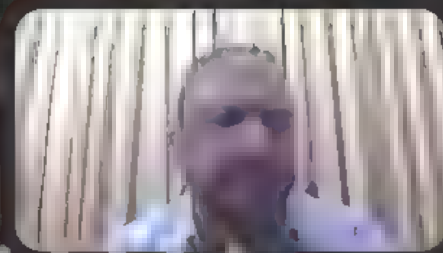


Q. 36

Which of the following molecules will not form a hydrogen bond with another of its own molecules?



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Q. 37

Which one of the following statements describes a phenomenon, which can be explained by intermolecular hydrogen-bonding?

- a. The melting points of the Group I hydroxides increase with increasing relative molecular mass (M_r)
- b. The boiling points of the alkanes increase with increasing relative molecular mass.
- c. CH_3OCH_3 ($M_r = 46$) has a higher boiling point than $\text{CH}_3\text{CH}_2\text{CH}_3$ ($M_r = 44$).
- d. Hydrogen chloride forms an acidic solution when dissolved in water.

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Q. 38

The C_2H_2 molecule is linear. What can be deduced from this about the numbers of σ and π bonds present in the molecule?

- a. 2σ 2π
c. 3σ 1π

- b. 2σ 3π
d. 3σ 2π

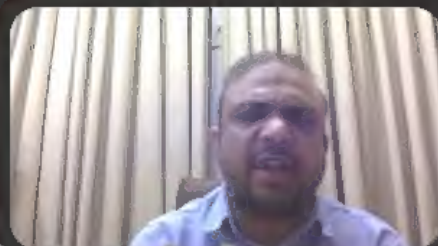
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Q. 39

Magnesium oxide is used to line industrial furnaces because it has a very high melting point. Which type of bond needs to be broken for magnesium oxide to melt?

- a. co-ordinate
- b. covalent
- c. ionic
- d. metallic

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Q. 40

axial overlapping results in:

a. σ - bond

b. π - bond

c. Ionic bond

d. Metallic bond

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